



Opinion 03-2022 of the Scientific Committee established at the FASFC on the growth potential of *Listeria monocytogenes* in raw milk butter

Background & Terms of reference

In Opinion 11-2019, the Scientific Committee proposed to include in the Hazard Analysis and Critical Control Point (HACCP) plan the pH control during the manufacturing process (cream maturation stage) of raw milk homestead butter. The Scientific Committee considered that the growth of *Listeria monocytogenes* during the maturation stage product was low if the pH value dropped below 5,2 during the first 10 hours of the manufacturing process. However, growth of *L. monocytogenes* at higher pH values in the finished product (> 5,2) could not be excluded.

In this opinion, the Scientific Committee has been asked, based on new scientific data, to re-evaluate the critical control point (CCP) of the pH control. The Scientific Committee has also been asked to evaluate the classification of raw milk butter with a pH lower than 5,2 according to Regulation (EC) No. 2073/2005.

Method

This opinion is based on new available scientific knowledge and data, and on expert opinion.

Results

Results of the provided scientific study showed possible growth of *L. monocytogenes* during the cream maturation stage of the butter manufacturing process. Results demonstrated an increase of 1,8 to 3,1 log cfu/g in the number of *L. monocytogenes* between the beginning and the end of the cream maturation process. Counts during storage of the butter did not show an increase but remained above the recommended thresholds (<100 cfu/g) until 21 days after the start of shelf-life.

Results showed that when cream maturation was performed with ferments and following supplier's recommendations, acidification to pH 5,2 could be achieved in 11 to 14 hours whereas the same acidification required more than 50 hours if no ferment was used.

Conclusions

Based on the available data, the Scientific Committee notes that the production process of raw milk butter presents *L. monocytogenes* growth risks as the presence of this pathogen in raw milk cannot

be excluded. It is important to apply a good HACCP plan. Regarding the modification of the CCP for the control of acidification, the Scientific Committee proposes the following adaptation: to reach a pH of 5,2 in the matured cream no later than 14 hours after the maturation start. The Scientific Committee proposes that by following good manufacturing practices (GMP) and recommendations of the HACCP plan (with the proposed CCP) and thus by having a sufficiently rapid and measured acidification of the cream, butter produced from raw milk with a pH < 5.2 can optionally be considered as a product of category 1.3 of Regulation (EC) No 2073/2005.

Recommendations

In the context of this opinion, the Scientific Committee makes the following recommendations:

- Include the systematic use of ferments in the manufacturing process of raw milk butters to ensure a rapid acidification of the cream and to limit the potential growth of *L. monocytogenes*.
- The following CCP is proposed for the production process of raw milk butters : preserving the pH of the matured cream to < 5.2; processing time of maximum 14 hours since the beginning of maturation; the use of a temperature > 20°C and of an appropriate ferment. The pH determination must be carried out in a rigorous manner for each batch and the measured value must be accurate to one tenth of a unit (0.1).
- It is recommended regular analyses for *L. monocytogenes* to be performed on raw milk butters before they are placed on the market.
- The Scientific Committee is aware that the recommendations in this advice could lead to adjustments of production methods on the farm. In this regard, it is important that the dairy farms are well advised.
- Continued communication with the consumer and raising awareness of consumers at risk. To this end, it is recommended that operators further inform the consumer about the possible risks associated with raw milk products, e.g. by providing the Scientific Committee information brochure regarding raw milk.

The full text is available on this website in dutch and in french.